

quintile of SES (30%) and fewer in the most deprived (10%). There was a decreasing trend in dornase α treatment with increasing deprivation (least deprived 48%: 43%: 41%: 41%: most deprived 42%, $p=0.004$) although when stratified by disease severity this was only significant among patients with mild disease (70% \leq FEV₁% predicted <90%). There were no differences in chronic Pa infections or FEV₁% predicted.

Conclusion In the last 20 years, the proportion of adults attending specialist clinics has increased and the majority live near their clinics. Despite these improvements, there exist disparities in treatment by distance and SES and chronic Pa infections by model of care.

P228 PATIENT EXPERIENCE OF A NURSE LED THERAPEUTIC PLEURAL ASPIRATION SERVICE

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Traditional models of care utilise the skills of a doctor to perform Therapeutic Pleural Aspiration (TPA). The procedure is often unplanned, rushed and performed by training doctors requiring supervision. At Salford Royal NHS Foundation Trust, we have trained the UK's first Lung Cancer Advanced Practitioner Nurse (LCAPN) to carry out TPA, as a bridge to alleviating chest symptoms prior to initiation of more definitive anti-cancer treatment and/or pleurodesis or as part of Best Supportive Care. From April 2009 to July 2010, our LCAPN carried out 41 planned TPAs independently in 23 individual patients with cancer related pleural effusion (11 lung cancers, 6 mesotheliomas, 6 other primaries) on the day ward, producing a total of 53 327 ml of fluid (mean 1300 ml). Patients were identified as suitable for TPA by the Lead Lung Cancer Clinician who used results from CT scan or same day Thoracic ultrasound scan to guide optimal site for needle placement using local anaesthesia (LA). Fluid was removed using the TRU-CLOSE suction drainage system. At the end of each procedure, patients were asked to complete a self-administered questionnaire based on their experience of the procedure, process of consent and comfort. Overall, the service was rated as excellent by 100% of patients. In particular, the service was rated highly for scheduling of TPA, information giving, consent, comfort and ability of LCAPN to perform the procedure. 76% of patients experienced either no pain or only mild discomfort and 21% experienced moderate discomfort, although this generally occurred at the end of the procedure.

Conclusion Nurse led TPA for cancer related pleural effusion is an acceptable model of care for alleviating symptoms prior to more definitive anti-cancer treatment or as part of Best Supportive Care.

P229 CHOOSE AND BOOK: NOT A PATIENT-CENTRED SERVICE?

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Introduction As part of another study we monitored Choose and Book (C&B) referrals attending our respiratory clinic and asked their views on their referral process. High non-attendance and limited patient choice with the C&B system has previously been observed elsewhere, despite it being intended as a patient-centred service enhancement. We sought to gain insight into non-attendance of C&B referrals at our clinic by analysing the levels of satisfaction with the referral process expressed by those who attended.

Method C&B non-attendance/cancellation rates were calculated for the initial study recruitment period. Patients attending clinic were asked to confirm their referral route and their satisfaction with the referral system via a nurse-administered questionnaire.

Results 47/57 (82.5%) C&B patients attended clinic during the study recruitment period. 2/57 (3.5%) rearranged to a different clinic. 8/57 (14%) failed to attend or cancelled. 44/47 (93.6%) patients who attended clinic responded to the questionnaire. 18/44 (40.9%) patients reported limited or no choice regarding time/date or hospital location of the appointment. 4/18 (22.2%) said the appointment was arranged by their GP. A further 7/18 (38.9%) seemed unaware of the C&B system or that they had a choice. 5/18 (27.8%) would have chosen a different hospital and 3/18 (16.7%) would have chosen a different date/time. 3/18 (16.7%) failed to get their preference using the online/telephone booking systems. In 12/44 (27.3%) cases the GP either made or assisted with the booking: 4/12 (33.3%) patients were happy for the GP to choose, 4/12 (33.3%) described a consultative process, 2/12 (16.7%) felt choice was limited and 2/12 (16.7%) made no additional comment. Only 16/44 (36.4%) mentioned using the telephone/online booking systems. 5/16 (31.3%) commented that the choice of dates or location that this provided was important to them. Patient reported problems with the systems included limited options and inflexibility when booking or rearranging appointments and a lack of information. 12/44 (27.3%) specifically mentioned that they liked the choice and convenience the system offered.

Conclusion Our findings suggest that a high proportion of respiratory patients do not exercise true choice with Choose and Book. This supports observations in other patient groups. System and process obstacles seem to be exacerbated by lack of patient awareness and may be contributing to high non-attendance rates.

P230 INAPPROPRIATE REFERRALS TO THE RAPID ACCESS LUNG CLINIC (RALC)

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Introduction and Aims Urgent referral suspected lung cancer cases depends upon nationally agreed protocols (a suspicious chest x-ray, persistent haemoptysis in smokers over age 40, stridor and SVC obstruction). In order to best use resource intensive RALC facilities, it is important that these protocols are followed. We wished to look at inappropriate referrals to the RALC which serves our large lung cancer unit (450 cases per year).

Methods We looked at source of and reasons for referral, eventual placement of the referral, and the ultimate diagnosis of all inappropriate referrals during the calendar year 2009.

Results Of 452 referrals, 97 (21%) did not follow the protocol [68 (70%) primary, 14 (14%) secondary care, and 15 (15%) from the A&E department]; including 76 (78%) with a 'suspicious chest x-ray' and 6 (6%) with 'haemoptysis'. In 46, the chest x-ray report did not suggest cancer, 6 had a normal chest x-ray, 2 from primary care had no radiology, 9 from secondary care had CT scans not suggestive of lung cancer, 5 did not meet the haemoptysis referral criteria, 8 were under specialist care for lung cancer/other malignancies, 11 were under chest physician/surgeon review and 3 were inpatients. One preferred investigation elsewhere, 1 had already been processed through the RALC, and one was a nursing home resident. In every case, a lung cancer unit clinician communicated with the referrer and channelled these referrals in timely fashion to appropriate services: 51 (53%) to a general chest clinic, 16 (16%) to other hospital specialists, 15 (15%) back to their GP, and one to palliative care. Ultimately, only 3 (3%) were subsequently diagnosed with

lung cancer; 2 via the general chest clinics and 1 following re-referral with persistent haemoptysis.

Conclusion We have shown that almost a quarter of RALC referrals did not adhere to strict referral protocols and would have been better served by a more appropriate referral elsewhere. We are working to educate our primary and secondary care colleagues to ensure that the only appropriate cases are referred to the RALC in order to reap the maximum benefit from this resource intensive service.

P231 AUDIT OF PRE-HOSPITAL OXYGEN THERAPY BY NORTH WEST AMBULANCE SERVICE (NWS) 1 YEAR AFTER PUBLICATION OF NEW JRCALC GUIDANCE FOR OXYGEN USE

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We audited oxygen use amongst 443 cases brought to the "majors" A&E area of a university hospital by NWS ambulance teams in May–July 2010. We compared the findings with our 2007 audit conducted before publication of the BTS emergency oxygen guideline in 2008 and JRCALC guidance in 2009 (Hale K. *Emerg Med J* 2008;**25**:773).

Results 90% of cases had oximetry recorded by ambulance teams in 2007, rising to 96% in 2010. 19% of cases were hypoxic in 2010 and 27% were given oxygen compared with 34% in 2007 (see Abstract P231 Table 1). The proportion given oxygen fell from 31% in the initial 4 weeks to 24% in the final 5 weeks of the audit when feedback was given to ambulance teams. The "ideal" figure for these cases was about 21% based on JRCALC guidance. 86% of cases were treated in accordance with JRCALC guidance in terms of receiving or not receiving oxygen and 73% were treated in full compliance (correct device and flow rate). The overall compliance rate was 4.4% higher (95% CI –2.3% to 11.0%) during the feedback period and full compliance rose by 9.9% (95% CI 1.6 to 18.2%) following feedback. Eight percent of cases received oxygen inappropriately and 3% were denied oxygen inappropriately. Our audit revealed that NWS ambulance crews were unable to give controlled oxygen to COPD cases because Venturi masks were not carried. Several COPD cases received high dose oxygen from nebuliser masks throughout the journey because air driven nebulisers and nasal cannulae were not available. Only four of 14 cases with AECOPD had SpO₂ <88% but 12 were given oxygen and 10 developed SpO₂ >92%.

Abstract P231 Table 1

BTS/JRCALC Oxygen category	Number (%) of cases	Percent with low SpO ₂	Percent given oxygen
1. Critical illness (<i>Reservoir mask</i>)	14 (3%)	50%	79%
2. Moderate oxygen (<i>Target 94–98%</i>)	52 (12%)	58%	71%
		SpO ₂ <94%	
3. Controlled oxygen (<i>Target 88–92%</i>)	14 (3%)	29%	86%
		SpO ₂ <88%	
4. Give oxygen only if SpO ₂ falls <94%	363 (82%)	12%	17%
		SpO ₂ <94%	
Average	Total 443 cases	19% (86 cases)	27% (120 cases)

Conclusions The proportion of NWS cases receiving oxygen in pre-hospital care has fallen from 34% in 2007 to 27% in 2010 following publication of BTS and JRCALC oxygen guidelines. 86% of cases were treated in broad compliance with JRCALC guidance and 73% were in full compliance. There is potential for further slight reduction in oxygen use in ambulances, especially for COPD

patients. This may be enhanced by feedback to ambulance crews and by providing a wider range of oxygen delivery equipment in ambulances.

P232 THE EARLY DETECTION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Introduction Approximately 835 000 people in England have been diagnosed with COPD however it is estimated that over 3 million have the disease¹ and those cases that are diagnosed are mainly moderate or severe in nature.² The direct cost of COPD to the UK healthcare system is estimated to be between £810m and £930 m per annum³ and without change is set to grow

Methodology It is essential that we offer good quality early diagnosis but the numbers involved are huge so a screening programme and pathway were developed. Patients at risk of COPD were initially defined as being aged over 40 with a smoking history. Vitalograph COPD6 devices, which measure FEV₁ were used across 22 practices to screen the target population at an average test time of 5 min compared to full spirometry of 20 min. All abnormal results were followed up with full spirometry, performed by an accredited health care provider.

Results To date 2055 patients have been screened. 841 (41%) demonstrated an abnormal result on COPD6 screening. Of these so far 376 have had COPD confirmed by spirometry. That is 18.3% of the target population and 45% of the group who had abnormal COPD6 results. It is estimated that, nationally over 2 million people have undiagnosed COPD and of those over 50% are diagnosed with moderate to severe disease² however the results available to date suggest that early detection leads to the majority of patients being identified while their condition is still mild. Results to date demonstrate that 75% of diagnoses were mild, 18% moderate and 3.2% severe. We are still awaiting confirmation of the remaining 3.8%. The project is ongoing.

Outcomes Mild COPD costs approximately 50% less to treat than moderate COPD and 90% less than severe COPD.⁴ Therefore in addition to improving outcomes for patients, early detection will also reduce the burden of care to the NHS and socioeconomic costs.

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P233 COPD AND ME: THE DEVELOPMENT AND IMPLEMENTATION OF AN INDIVIDUAL PATIENT MANAGEMENT PLAN AND HAND-HELD RECORD

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Background People with chronic obstructive pulmonary disease (COPD) face multiple challenges living with a progressive and